

Claims:

1 1. A base station transceiver system (BTS) in
2 communication with a mobile station (MS) and with a base
3 station controller (BSC), comprising:

4 circuitry that defines logic to prompt the BTS to
5 transmit a signal to the BSC representing a previous
6 transmission's forward gain level;

7 circuitry that defines logic that prompts BTS to
8 generate a sequence number that relates to the previous
9 transmission forward gain level and to transmit the sequence
10 number with the status signal; and

11 circuitry that defines logic for comparing power gain
12 commands received from the BSC in relation to transmitted
13 power gain levels and for adjusting the BTS's forward gain
14 level for a subsequent transmission.

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1 2. The BTS of claim 1 wherein the circuitry that
2 defines logic for adjusting the BTS power gain level also
3 defines logic for adjusting the BTS power gain level
4 according to power control commands received from the MS.

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1 3. The BTS of claim 1 wherein the circuitry that
2 defines logic for adjusting the BTS's power gain level in a
3 manner that previous power control commands received from the
4 mobile station are not erased as a result of the BTS
5 receiving a power gain command from the BSC.

1 4. The BTS of claim 1 wherein the circuitry that
2 defines logic for adjusting the BTS's power gain level
3 includes a processor coupled to communicate with a memory
4 wherein the memory includes computer instructions that define
5 the operational logic for adjusting the BTS's power gain
6 level.

1 5. The circuitry of claim 4 wherein the circuitry that
2 defines logic for adjusting the BTS's power gain level
3 includes logic circuitry whereby the logical operation of the
4 circuitry is defined in hardware.

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1 ~~6.~~ A method for adjusting power gain levels for
2 forward link transmissions for a BTS, comprising:
3 transmitting a forward gain status signal to a BSC,
4 which forward gain status signal includes a first portion
5 defining a forward gain level and a second portion that
6 defines a sequence number;
7 receiving at least one power control command from a
8 mobile station;
9 receiving a power gain command from the BSC, which power
10 gain command comprises a first portion defining a commanded
11 power gain level and a second portion including the sequence
12 number; and
13 adjusting the power gain level.

1 7. The method of claim 6 wherein the step of adjusting
2 the power gain level includes determining a difference
3 between the first portion of the power gain status signal and
4 the first portion of the commanded power gain level.

1 8. The method of claim 7 wherein the step of adjusting
2 the power gain level includes receiving a power control
3 command from a mobile station and adjusting the power gain
4 level responsive to the power control command from the mobile
5 and responsive to the commanded power gain level from the
6 BSC.

1 9. The method of claim 7 wherein the step of adjusting
2 the power gain level includes receiving a plurality of power
3 control command from a mobile station since the status signal
4 was transmitted and adjusting the power gain level responsive
5 to the plurality of power control commands from the mobile
6 station and responsive to the commanded power gain level from
7 the BSC.

1 10. The method of claim 6 wherein the step of adjusting
2 the power gain level includes receiving a plurality of
3 commanded power gain level signals from the BSC and
4 determining a difference between the first portion of the
5 last two received commanded power gain level signals wherein
6 the power gain level is adjusted responsive to the determined
7 difference.

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1 11. The method of claim 10 further including the step
2 of only adjusting a power gain level responsive to a mobile
3 station request if a commanded power gain level from the BSC
4 is equal to a reported value or an adjusted value for a given
5 sequence number transmission.

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1 ~~12.~~ A method in a base station transceiver system (BTS)
2 for adjusting a forward gain of a forward link, comprising:
3 transmitting a plurality of status signals to a base
4 station controller (BSC);
5 receiving at least one power gain command signal wherein
6 each received power gain command signal corresponds to one of
7 the previously transmitted status signals;
8 receiving at least one power control command from a
9 mobile station; and
10 adjusting the forward gain of the forward link
11 responsive to the at least one power gain command and to the
12 at least one power control command.

1 13. The method of claim 12 wherein the method includes
2 receiving a first power gain command and wherein the power
3 gain is adjusted to be a sum of a difference between the
4 first power gain command and a forward gain value defined
5 within the status signal.

1 14. The method of claim 13 wherein the method includes
2 receiving a second power gain command and wherein the power
3 gain is adjusted to be a sum of the difference between the
4 first and the second power gain commands.

1 15. The method of claim 12 wherein a plurality of power
2 control commands are received from the mobile station and
3 wherein the power gain level is adjusted responsive to the
4 plurality of power control commands and the first power gain
5 command.

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1 16. A method for adjusting a forward gain level for a
2 forward link in a wireless communication network, comprising:
3 receiving a first two part power gain level command, the
4 two part power gain level command including a power gain
5 level and a sequence number; and
6 adjusting the power gain level responsive to the first
7 two part power gain level command.

1 17. The method of claim 12 wherein the power gain level
2 is adjusted to add the difference of the values of the power
3 gain level specified in the first two part power gain level
4 command and in a corresponding forward gain value.

1 18. The method of claim 17 further including receiving
2 a second two part power gain level command wherein a current
3 power gain level is adjusted by adding the difference between
4 the commanded power gain levels of the first and second two
5 part power gain level commands.

1 ~~19.~~ A method for adjusting a power gain level for a
2 forward link in a wireless communication network, comprising:
3 receiving a power gain command from a BSC;
4 receiving at least one power command signal from a
5 mobile station; and
6 adjusting the power gain level responsive to the power
7 gain command and to the at least one power command signals
8 from the mobile station.

1 20. The method of claim 19 further including receiving
2 a second power gain command from the BSC wherein the
3 adjusting step includes adjusting the power gain level
4 responsive to the at least one power command signals from the
5 mobile station and to a difference between the first and
6 second power gain commands.